

Fudo Bridge (formerly 2nd Yanba Dam Bridge)

The Fudo Bridge was constructed as part of a replacement road needed for the Yanba Dam Project on the middle reaches of the Azuma River in Gunma Prefecture. The five-span continuous rigid-frame bridge with a length of 590 m is the world's first PC composite truss extradosed bridge in which the technologies for PC composite truss and extradosing are combined. Of the PC composite truss bridges in Japan, this bridge has the smallest girder depth (6 m) and the greatest girder span (155 m).

A new structure was adopted for the panel points of the deck and truss, where a greater load-bearing capacity than that in a conventional structure was required. An FEM analysis was carried out and various loading tests were conducted to verify the safety of the completed structure.

The design takes preservation of the local landscape fully into consideration and the highly transparent superstructure, which is a particular feature of PC composite truss bridges, avoids all sense of spoiling the view.

Weather-resistant steel is used for the steel trusses to improve maintainability and durability. Semi-prefabricated cables of non-grouted heavy-duty structure were used for the diagonal members and external cables.